Archives of Psychiatry and Psychotherapy, 2009 ; 3 : 51–55

A comparative study on depressive symptoms in primary school students in a big city in years 1984 and 2001

Renata Modrzejewska, Jacek Bomba

Summary

Aim. The study aims to identify relations between depressive symptoms prevalence in children and changing social context within a period of fifteen years.

Material and methods. The Kraków Depression Inventory (KID), version AO "B1" was used as a screening tool for depression in children. The subject group included 10-year-old fourth-form Kraków primary school students selected in 1984 and 2001 by two-stage draw. The analysis included subjects with a screening diagnosis of depression symptoms. In 1984, this was a group of 160, and in 2001 – 200 persons.

Results. Statistical analysis showed significant differences between the groups of pupils under study in 1984 and 2001 as far as the scale of mood disorder is concerned (a reduction in the intensity of symptoms in girls and an increase in boys) and somatic symptoms (increase of symptoms in girls and a reduction in the intensity of symptoms in boys). On other scales, no differences of statistical significance were found between the groups.

Conclusions. The changing social conditions have a relatively low effect on the symptomatic depression image in preadolescent children.

child depression / epidemiological study

INTRODUCTION

Epidemiological studies conducted in the untreated population of children and adolescents and clinical groups indicate a change in the incidence of depression according to sex in later periods of development [1, 2, 3].

Prevalence of major depression in children during pre-puberty was defined at around 1-2% and in the adolescent group, at 3-8% [4, 5, 6].

Renata Modrzejewska, Jacek Bomba: Departament of Child and Adolescent Psychiatry, The Jagiellonian University Collegium Medicum, Cracow, Poland. Correspondence Address: Renata Modrzejewska, Department of Child and Adolescent Psychiatry, Chair of Psychiatry, 21a Kopernika St., 31-501 Kraków, Poland. E-mail: renatam@cm-uj.krakow.pl

The research was aided by grant nr: KBN 4 PO5D 018 16

Recently collected data suggest that the spread of depressive disorders in children is increasing, and the average age at which they appear for the first time is dropping [7].

The presence of depression in the developmental period presents a risk of developing negative complications in a later period, such as symptoms of severe behaviour disorders, personality disorders, use of alcohol, cigarettes and other psychoactive substances, presence of suicidal thoughts and attempts, obesity, interpersonal conflict and poor relationships in the peer group as well as poorer performance at school [8].

The relationship of child depression with adverse social factors has been pointed to, but there is no sufficient evidence to support it [9, 10].

Depression, just like the many other mental and behavioural disorders before puberty, ap-

pears slightly more often in boys, and after puberty – in girls. The reasons for these differences have many hypothetical explanations, none of them, however, has been taken for granted [1].

In the last 20 years, significant progress has been made in the understanding and development of methods of treatment of depression in children; however, some areas still require further research. These include studies of molecular genetics to determine the endophenotype – the sequence of genes associated with cognitive, emotional and behavioural characteristics, and early onset of affective disorders. The phenotype includes: affective symptoms, anxiety and neuroticism. Such phenotypes may help identify genetic factors relevant to the beginning and the course of depression, and as a consequence they should support the identification of persons at risk and assist in the development of more precise methods of treatment. An important complement to them is studies that help explain how developmental and environmental risk factors and protective factors impact on gene expression [8]. Results presented below are consistent with the trend of research into the social context.

Modern classifications of mental disorders (ICD-10, DSM-IV) are by their nature temporary. They include depression image disorders emerging in childhood and adolescence into the category of either affective disorders, behaviour and emotion disorders, somatogenic or post-traumatic disorders – depending on the context of the development of depression. This justifies the adoption of an anosological approach in research, as well as treating depression (interchangeably referred to as depressiveness) as a syndrome. Especially as new attempts of mental disorder typology also include, beside classic ones, the characteristics of the environment in which development takes place [11, 12].

AIM OF THE STUDY

The purpose of this study was an attempt to determine whether depressive symptomatic manifestation in a group of 10-year-old school children remains in connection with the social context of adolescence.

To eliminate the effect of the secular trend and that of differences in the pace of adolescence, a time interval between measurements of less than 20 years was selected. The first stage of research was carried out in the mid-1980's. It was assumed that the social context difference between the end of the martial law and the twelfth year since the beginning of the political transformation in Poland was significant enough to meet our expectations. What had changed by that time was the political system in the country, the basic military alliances, the scope of civil liberties and responsibilities, the social welfare system, the health care system, the prospects of finding a place in the adult world. For organizational reasons, comparative tests were carried out in 2001.

MATERIAL AND METHODS

The Kraków Depression Inventory (KID) version AO "B1" was developped in the 1980's as a screening toll for depression in child general population [13]. KID results allow a screening diagnosis of depression to be made, as well as depression symptomatic manifestation to be described. Originally, KID, which had been developed prior to the introduction of the ICD-10 classification, would capture the broadly understood depression in children and adolescents. Therefore, the concept of depression used in this article does not refer directly to the above-mentioned categories of DSM-IV and ICD-10.

KID AO "B1" is in the form of a questionnaire filled in by parents and includes 67 descriptions of depression symptoms. A score of 12 or more positive statements is diagnostically positive, the reliability coefficient is – rtt=0.907, and the diagnostic accuracy estimated based on the point-biserial correlation coefficient is equal to 0.593 [7]. The questionnaire includes the following scales: A – mood disorders, B – anxiety, C – cognitive disorders, D – activity level, E – self-destruction and F – somatic symptoms.

KID results are graded on a standard ten scale. An overall result within the region of 7 to 10 indicates the presence of depression, and on the individual scales, it indicates a considerable increase in the intensity of symptoms in the area.

The tested Groups were: In 1984, 419 fourth form students of Kraków primary schools (10-year-olds: 213 girls and 206 boys) and in

2001, 722 students (335 girls and 387 boys). These groups were selected using a two-stage draw.

The analysis included students tested with a screening diagnosis of depression. In 1984, it was a group of 160 children, and in 2001 – 200. Gender-wise distribution of numbers in both test stages is shown in Tab. 1.

Table 1. Number of tested samples of students with depressive symptoms

Sex	1984	2001	Total
Boys	96	120	216
Girls	64	80	144
Total	160	200	360

Statistical methods

Two-factor ANOVA was applied separately for each KID AO "B1" scale in order to verify the differences between the populations of 1984 and 2001 and between both genders.

RESULTS

The profiles of averaged scores on the KID AO "B1" scales for the four separate groups are diverse.

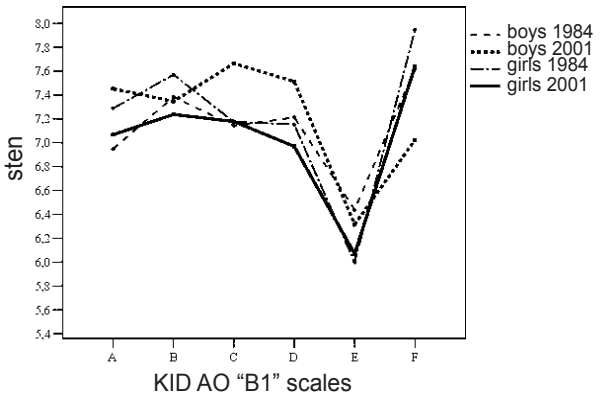

Figure 1. A graph of average score profiles of the KID AO "B1" scales in four populations

On the scale of mood disorders (A), no differences were observed between the sexes or between the populations. There was however a statistically significant interaction between gender and population (F [1.356]=6.713, p=0.010).

Figure 2 illustrates the nature of the interaction. The intensity of mood disturbances in the population of girls from the year 2001 is lower than that in the girls' population of 1984, while in the boys' populations it was the other way round – in 2001, the level of mood disturbances is higher than in 1984. The simple results rendered a statistically significant difference (t=2.842, df = 214, p = 0.005) between the means of the two boys' populations and between the means of boys' and girls' populations in the year 2001 (t=2.097, df=198, p=0.037). In 1984, the latter difference never reached the level of alpha =0.05 but it should be noted that the sizes of the surveyed populations were smaller.

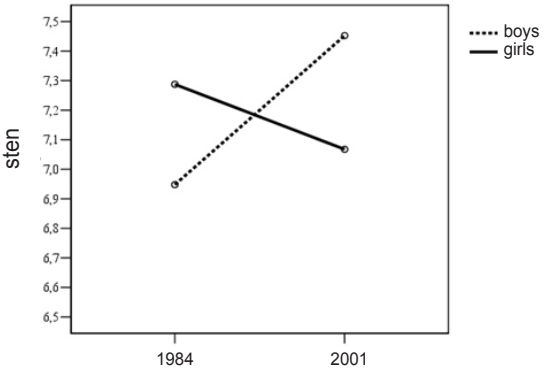

Figure 2. Image of the population* sex interaction on the A scale (mooded disorders)

[Fig. 2]

On the B-scale (anxiety), no statistically significant differences were found between the test groups.

On the C-scale (cognitive symptoms), two-factor ANOVA results were statistically insignificant, although two simple results were found to be significant (in the 2001 population of boys, the average was higher than that for boys from the 1980's – t=2.423, df=214, p=0.016 and at the same time significantly higher in terms of statistics than the average for the 2001 girls (t=2.240, df=198, p=0.026).

On the D-scale (activity level), two-factor ANOVA results were statistically insignificant. Out of the simple results, a statistically significant difference between the boys and girls in 2001 was noticeable – more severe psychomotor disturbances occurred in the boys' group (t=2.463, df=198, p=0.015).

On the self-destruction scale (E), two-factor ANOVA results (primary effects and interaction) were found to be statistically insignificant. Also, none of the simple results reached the level of al-

pha=0.05. In the absence of significant differences on this scale, in particular the low variance of raw scores is striking.

Scale F (somatic symptoms) revealed significant primary effects. Girls from both populations received a higher average than boys in both populations (F [1.356]=5.369, p=0.021). The F-scale average of students surveyed in 2001 was lower than the average of students from the 1984 (F[1.356]=4.924, p=0.027). Two simple effects were found to be statistically significant. The average of the 2001 boys was significantly lower statistically than the average of the 1984 boys (t=2.207, df=214, p=0.028). In 2001, the girls differed from the boys significantly in a higher intensity of symptoms (t=2.259, df=198, p=0.025).

From the above ANOVA results for the KID AO "B1" scales and from the analysis of the profiles in Figure 1, it can be concluded that the compared populations of students differed significantly in statistical terms on at least two scales A and F (interactive or primary effects on ANOVA), and (with less certainty) that the differences between some populations also occurred in the scales C and D. No differences, however, were found in the scales B and E, although in the latter one, there is a marked trend towards higher scores in the boys' population than in the girls' populations.

DISCUSSION

Studies conducted earlier have defined the prevalence rates of depression symptoms in a population of untreated 10-year-old primary school students at 38.2% in 1984 and 27.7% in 2001. In the period described, a significant change concerned the reduction in the point prevalence of depression symptoms among boys from 46.6% to 31.0% and this difference was very significant statistically [7]. In the girls' group, these changes were respectively 30.0% versus 23.9% and had not reached statistical significance.

It should be noted that studies based on the reports of parents and teachers found a lower prevalence of depression symptoms than studies which took into account the children's own assessments of their mental status. Even if adults are credible as to the externalising behaviours and have a tendency to perceive depression as behaviours causing a problem, they generally report fewer symptoms than their children [14, 15].

An analysis of the results of a screening study of depression in young people at an early stage of adolescence carried out in a varied social context has shown that certain characteristics of the phenomenon studied are fixed, while others are subject to some change.

The changes also apply to depression manifestation, but they are not as big as in the medium and late adolescence stage [16, 17].

The manifestation of depression in the preadolescence is similar in both sexes in the intervals described. The changing political and social conditions associated with the transition period have no major impact on their image. Children whose puberty only begins do not respond with a change of the psychopathology to significant changes occurring in the surrounding environment.

CONCLUSIONS

1. The changing social conditions have a relatively low effect on the symptomatic depression manifestation in preadolescent children.
2. It can be noted, though, that in 2001, compared with the 1984:

   - The intensity of mood disturbance symp toms (A) had decreased in girls and in boys it had increased;
   - The intensity of cognitive symptoms (C) had increased in boys;
   - The intensity of activity level symptoms (D) had diversified the genders more, increasing in boys;
   - The intensity of somatic symptoms (F) had decreased in boys more clearly, differentiating between the sexes.

REFERENCES

1. Bomba J, Badura-Madej W, Bielska A. Rozpowszechnienie i obraz depresji u dzieci i młodzieży w świetle bezpośrednich badań populacji nieleczonej. Psychiat. Pol. 1986; 2: 184–189.

2. Jaklewicz H. Zaburzenia depresyjne u młodzieży w okresie transformacji społecznej. Psychiatria i Psychologia Kliniczna Dzieci i Młodzieży 2001; 1: 26–36.
3. Modrzejewska R. Depresja wieku rozwojowego - analiza epidemiologiczna populacji krakowskich szkół podstawowych i ponadpodstawowych. Streszczenia Prac XL Zjazdu Naukowego Psychiatrów Polskich. Psychiat. Pol. 2001; 3: 152.
4. Harrington R. Affective disorders. In: M. Rutter, E. Taylor eds. Child and Adolescent Psychiatry. Oxford: Blackwell Publishing; 2002. p. 463–485.
5. Fleming JE, Offord DR. Epidemiology of childhood depressive disorders: a critical review. J Am Acad. Child Adolesc Psychiatry, 1990; 29, 571–580.
6. Costello EJ, Mustillo S, Erkanil A. Prevalence and development of psychiatric disorders in childhood and adolescence. Arch Gen Psych, 2003; 60, 837–844.
7. Modrzejewska R, Bomba J. Porównanie rozpowszechnienia depresji w populacji 10-letnich dzieci krakowskich szkół podstawowych w latach 1984 i 2001. Psych. Pol. 2006; 6, 1117–1128.
8. Zalsman G, Brent D. Child and Adolescent Psychiatric Clinics of North America, Depression 2006; 15, 4, 827-841.
9. Bomba J, Jaklewicz H. Depresja u dzieci podejmujących naukę szkolną. Rozpowszechnienie zjawiska i jego zależność od możliwości przystosowawczych dziecka. Psych. Pol. 1990; 24, 4, 15–19.
10. Bomba J, Jaklewicz H. Dynamika depresji u dzieci. Badania longitudinalne. Psych. Pol. 1994; 28, 5, 523–534.
11. Hantman S, Solomon Z, Horny Y. Long-term coping of Holocaust survivors: a typology. Isr. J Psychiatry Relat Sci. 2003; 40, 2, 126–134.
12. Munich RL, Allen JG. Psychiatric and sociotherapeutic perspectives on the difficult – to – treatment patient. Psychiatry 2003; 66, 4, 346–357.
13. Bomba J, Badura W, Bielska A, Domagalska-Kurdziel E, Gardziel A, Izdebski R, Józefik B, Kwiatkowski R, Lebiedowicz H, Pietruszewski K, Szelerewicz L, Wolska M, Zyblikiewicz D. Rozpowszechnienie i obraz depresji u dzieci i młodzieży w świetle bezpośrednich badań populacji nieleczonej. Psych. Pol. 1986; 20, 3, 184–189.
14. Poli P, Sbrana B, Marcheschi M, Masi G. Self-reported depressive symptoms in a school sample of Italian children and adolescents. Child Psychiatry Hum Dev, 2003; 33, 209–226.
15. Angold A, Weissman M, John K, Merikangas K, Prusoff B, Wickramaratne P. Parent and child reports of depression symptoms in children at low and high risk of depression. J Child Psychol Psychiatry, 1987; 28, 901–915.
16. Modrzejewska R, Bomba J. Porównanie obrazu depresji młodzieńczej w populacji uczniów krakowskich szkół gimnazjalnych na podstawie analizy wyników badań inwentarzem objawowym IO „B1". Psych. Pol. 2008; in publishing.
17. Modrzejewska R, Bomba J. Porównanie rozpowszechnienia depresji wśród młodzieży krakowskich szkół średnich w latach 1984 i 2001. Psych. Pol. 2004; 1, 13–27.